



Center for
Environmental
Information and
Statistics

US Environmental
Protection Agency

Major Findings from the CEIS Review of EPA'S

RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM (RCRIS) DATABASE COMPLIANCE SUBSYSTEM



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Major Findings from the CEIS Review of EPA's RCRIS Compliance Subsystem

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1. INTRODUCTION

The **Resource Conservation and Recovery Information System (RCRIS)** is designed to assist EPA Headquarters, Regions, and States in managing hazardous waste handlers under the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984. Hazardous waste handlers include hazardous waste treatment, storage, and disposal (TSD) facilities, hazardous waste generators, and hazardous waste transporters. RCRIS contains information on the identification, location, permitting status, closure/post-closure status, compliance, and enforcement issues for hazardous waste handlers. As of 1998, RCRIS included data on 429,000 handlers.

States or Regions enter all of the information to track events and activities. The State data are merged into Regional databases. Core data include those data elements which have been determined by States, EPA Regions, and EPA Headquarters to be necessary for the oversight of the RCRA program from a national perspective. Core data from the Regional databases are extracted to create the RCRIS National Oversight Database, used and made available by EPA Headquarters. The EPA Office of Solid Waste is responsible for the maintenance and administration of that database.

The RCRIS Compliance Subsystem contains files on evaluation of handlers, violations, and compliance monitoring and enforcement. These activities fall under the purview of the Office of Enforcement and Compliance Assurance (OECA). OECA oversees compliance monitoring and enforcement activities associated with RCRA. State and Regional offices conduct evaluations of the waste handlers and detect any violations.

Evaluations

Evaluations are conducted routinely on an annual or biennial schedule for TSD facilities. All other facilities are evaluated routinely as resources permit or requirements dictate. Ten percent of the facilities evaluated by the States are also evaluated by the Regional Offices. The evaluation is primarily an on-site inspection of the compliance status of the handler with regard to all applicable RCRA regulations and permits. It includes an examination of the records and other documents maintained by the handler. The evaluations may also include:

- Sampling for analysis by State agencies or Regional offices
- Detailed evaluation of the adequacy and design of a facility's groundwater monitoring system
- Operation and maintenance inspection of the groundwater monitoring system
- Verification of compliance with enforcement actions associated with prior violations
- Intense investigation to gather information to support enforcement actions
- Determination of Significant Non-Complier (SNC) status¹

¹ A SNC is a facility which has caused actual exposure or a substantial likelihood of exposure to hazardous waste or hazardous waste constituents; is a chronic or recalcitrant violator; or deviates substantially from the terms of a permit, order, or agreement, or from RCRA statutory or regulatory requirements.

Violations

Violations may be detected by an inspection. There are different types of violations which indicate the regulation that has been violated.

Enforcement

Enforcement actions may be imposed if there are violations. They include informal administrative actions involving verbal and written communication; and formal administrative actions including compliance orders, imminent hazard orders, and monitoring, analysis, and testing orders. There are also administrative referrals between State and Federal agencies as well as judicial referrals, civil actions, judicial actions and criminal actions.

Detailed information pertaining to evaluations, violations, and enforcement are noted in the Compliance Subsystem. OECA uses this database to manage the compliance and enforcement issues associated with the Hazardous Waste Program. The database is also used to determine the allocation of grant monies -- typically, additional dollars are provided in those cases where significant cleanup and inspection are required. Other uses include targeting investigations, multimedia sector analysis, public access, and answers to freedom of information requests. This document reviews the Compliance Subsystem of RCRIS. The sections on facility identification, permitting, closure, and post closure are reviewed separately (see the review of RCRIS Database).

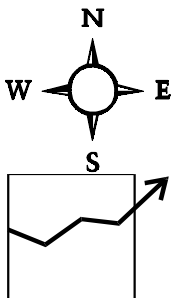
RCRIS Compliance Subsystem is one of the major EPA databases that are being reviewed to characterize their overall quality and applicability.

2. SUMMARY ANSWERS TO REVIEW QUESTIONS



2.1. What does the database cover?

The RCRIS Compliance Subsystem is a subset of the RCRIS Database. As of March 1998, RCRIS contains information on 429,000 hazardous waste handlers. The Compliance Subsystem covers all facilities subject to RCRA Subtitle C regulations, and includes information on evaluation of handlers (365,000 records), violations (308,000 records) and enforcement (143,000 records). The data include handler identification, details on activities, and associated dates.

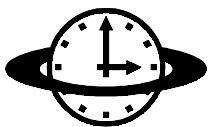


2.2. Can the database be used for spatial analysis?

Yes, since the data can be accessed at the national, Regional, State, county, and city level.

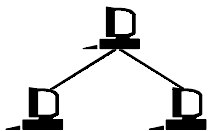
2.3. Can the database be used for temporal analysis?

Yes. RCRIS Compliance Subsystem contains information on dates when evaluations were conducted, violations observed, and enforcement actions taken.



2.4. How consistent are the variables over space and time?

The variables in RCRIS Compliance Subsystem are consistent over space and time for the same categories (generators versus TSD facilities). RCRIS keeps “frozen” databases to facilitate comparisons.



2.5. Can data from RCRIS Compliance Subsystem be linked with information from other databases?

RCRIS Compliance Subsystem data are categorized by Standard Industrial Classification (SIC) codes, ZIP codes, and Federal Information Processing Standards (FIPS) codes for county and State and thus facilitate linkages. Additionally, the RCRIS Compliance Subsystem maintains latitude/longitude data for TSD facilities. Data from other databases with RCRIS ID numbers, such as TRI, also have the potential to be linked to data in the RCRIS Compliance Subsystem.



2.6. How accurate are the data in RCRIS Compliance Subsystem?

States and Regions, which create the data, manage data quality control. The system includes several levels of internal edit controls to ensure correctness and completeness of mandatory data.



2.7. What are the limitations of RCRIS Compliance Subsystem?

For generators, the database includes only facilities for which data have been reported to RCRIS Compliance Subsystem. They are generators for which data were provided by the State or by the EPA Regional Office or for which the State or EPA received a report of a possible violation. Although TSD facilities are required to notify and obtain permits, there is concern that there may be non-notifiers. This means that some TSD facilities may be operating but not reporting under RCRA. For the Compliance Subsystem, information is entered annually for TSD facilities whereas information on generators is entered on a five-year cycle.



2.8. How can I get information on RCRIS Compliance Subsystem?

The public may access information via *Envirofacts* at the EPA website, http://www.epa.gov/enviro/html/rcris/rcris_overview.html. RCRIS Compliance Subsystem is also available to EPA and State RCRA implementers and their approved contractors on the EPA mainframe.



2.9. Is there documentation on RCRIS Compliance Subsystem?

There are a number of user and system documents available from the Office of Solid Waste that are listed in the detailed answers that follow.

3. DETAILED ANSWERS TO REVIEW QUESTIONS



3.1. What does the database cover?

The RCRIS Compliance Subsystem is a subset of the RCRIS Database. As of March 1998, RCRIS contains information on 429,000 hazardous waste handlers including treatment, storage, and disposal (TSD) facilities, and generators and transporters of hazardous waste.² The Compliance Subsystem includes the evaluation file (365,000 records), the violation file (308,000 records), and the enforcement file (143,000 records).

Who Must Report?

The Compliance Subsystem of RCRIS includes information on TSD facilities and generators. Treatment, storage and disposal (TSD) facilities receive and store, treat, or dispose of hazardous waste. Generators are classified as follows:

- **Conditionally exempt small quantity generators (CESQGs):** generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.
- **Small quantity generators (SQGs):** generate between 100 kg and 1,000 kg of hazardous waste per month.
- **Large quantity generators (LQGs):** generate over 1,000 kg of hazardous waste, or over 1 kg of acutely hazardous waste per month.

SQGs and LQGs are required to obtain an identification number and are included in RCRIS. Although not required, some CESQGs also obtain identification numbers and are therefore included in RCRIS. In 1997, about 70% of the handlers in RCRIS were generators; 20% of these were LQGs. SQGs and CESQGs accounted for 73% and 7% respectively. The Compliance Subsystem covers all facilities in RCRIS.

It is estimated that 10% of the large quantity generators generate 80% of all hazardous waste generated within the United States.

²Under RCRA, a waste is any solid, liquid, or contained gaseous material that is discarded by being disposed of, burned or incinerated, or recycled. Waste is considered “hazardous” if it falls into the following two categories:

- **Listed waste:** If it is one among the over 400 wastes that appear on one of the four lists published in the Code of Federal Regulations (40 CFR Part 261).
- **Characteristic wastes:** If the waste does not appear on the above mentioned list but demonstrates one or more of the following characteristics:
 - ignitable, where it catches fire under certain conditions;
 - corrosive, where it corrodes metals or has a very high or very low pH;
 - reactive, where it is unstable and explodes or produces toxic fumes, gases or vapors when mixed with water or under other conditions such as heat or pressure;
 - toxic, where it is harmful or fatal when ingested or absorbed, or it leaches toxic chemicals into the soil or ground water when disposed of on land.

How are data reported?

Data are collected, validated, and maintained by State and EPA Regional Offices. Most Regions maintain their data on the EPA mainframe although some are starting to use PC's. States may elect to use (1) the EPA mainframe, (2) RCRIS on a local PC, or (3) other State systems which can generate RCRIS compatible flat files. States and Regions, known as Implementers, merge their data monthly. The Merged Database combines both Region and State Implementer data to form a complete view of RCRA facilities in one Region. Core data comprise those data elements which have been determined by States, EPA Regions, and EPA Headquarters to be necessary for the oversight of the RCRA program from a national perspective. Core data from each of the ten Regional Merged Databases are extracted and sent to the RCRIS National Oversight Database.

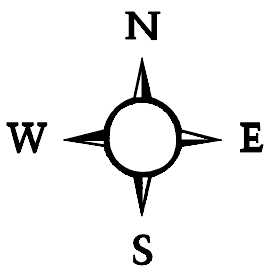
Data Elements

RCRIS Compliance Subsystem contains data in the following three files or sections:

Evaluation: The evaluation file includes data on handler identification; responsible agency (State/EPA); date of, and type of evaluation.

Violations: The violations file includes data on handler identification; responsible agency (State/EPA); area, date, and class of violation; regulation violated; resolution date; and priority. It should be noted that numerical results are not always entered into the database. There is a field for a yes/no determination of a violation, but it is not required.

Enforcement Action: The enforcement action file includes data on handler identification; responsible agency (State/EPA); date and type of enforcement action; enforcement milestones; and type and amount of penalty.



3.2. Can the database be used for spatial analysis?

The Compliance Subsystem is part of the RCRIS database which contains information that can be accessed at the national, Regional, State, county and city level. The spatial variables in the database include:

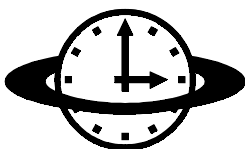
- County
- City
- State
- EPA Region
- Latitude and longitude (required for TSDs only)

In 1997, over 99% of the records had information on all of the above except latitude and longitude. Only 23% of all handlers and 73% of TSD facilities had information on latitude and longitude. In general the latitude/longitude information in RCRIS is not very reliable.



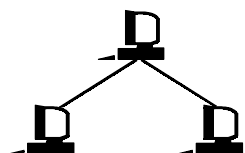
3.3. Can the database be used for temporal analysis?

Yes. The Compliance Subsystem has information on the dates associated with evaluation, observed violation, enforcement action, and scheduled and actual payment of penalty. The national Oversight Database is updated monthly and does not help keep histories of compliance schedules and completion dates. This is important if a facility is out of compliance and an investigation is performed. If the result of the investigation is to allow more time by establishing a new compliance date, the facility is no longer out of compliance. Thus the next month's report appears to demonstrate compliance when nothing has changed.



3.4. How consistent are the variables over space and time?

RCRIS Compliance Subsystem has an extensive collection of user and system documentation to promote consistency. Every two to four weeks, there are conference calls to the Regions to try to ensure uniformity in reporting. There is also an annual users meeting as part of efforts to promote national consistency.



3.5. Can data from RCRIS Compliance Subsystem be linked with information from other databases?

RCRIS Compliance Subsystem has the potential to be linked with other databases using variables listed below:

- name of facilities
- latitude and longitude (primarily for TSDs)
- SIC codes
- FIPS codes for States and counties
- RCRIS identification in other databases, such as TRI



3.6. How accurate are the data in RCRIS Compliance Subsystem?

States and Regions are responsible for data entry and edits. The use of data entry screens and additional edits at the time of merging databases help to minimize errors. When data are entered directly into RCRIS, the software provides error messages when the entered item differs from codes defined as acceptable. In addition, error detection programs are run after the State and Regional data are merged into the National database to identify missing data and incorrect codes. Sampling the database and comparison of values to entry forms is not done at the national level since these source documents are retained by the State and EPA Regional offices. Documented QA/QC procedures for this data collection activity include training for inspectors. An overlap system is also employed to assure that at least 10% of the facility inspections that State inspectors conduct are replicated by Regional inspectors. (For other accuracy-related issues, see the discussion on limitations, below.)



3.7. What are the limitations of RCRIS Compliance Subsystem?

- The national database contains only a subset of the RCRIS data collected by States and Regions.
- Latitude and longitude data are required only for TSD facilities. While TSDs are the handlers of the highest program concern, they account for about 1.5% of all waste handlers (about 6,500 of a total of nearly 430,000). The absence of latitude/longitude data for nearly 77% of RCRIS handlers does not indicate missing data. It is merely a function of the fact that most waste handlers are not required to submit that data. In addition, the latitude and longitude data on TSD facilities are considered to be extremely inaccurate according to the Program Office. A review of the 1997 data indicates that the accuracy varies by Region.
- Records are more complete for TSDs, since they have annual or biannual inspections.



3.8. How can I get information on RCRIS Compliance Subsystem?

The database resides on EPA's internal mainframe computer system.

General information on RCRIS may also be obtained from:

Stephen P. Watson
EPA
401 M Street SW
Mail Code 5305
Washington, DC 20460
Phone: (703) 308-7914
Fax: (703) 308-7905
email: watson.stephen@epamail.epa.gov

Electronic Media

NTIS has CD ROM's.

RCRIS can be accessed via FTP, Gopher server, internet, or dial up modem.

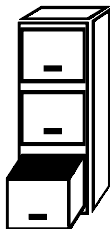
EPA offers information from the RCRIS database on the internet at the following sites:

Hazardous Waste Data which provides general information including links to online querying of RCRIS.

<http://www.epa.gov/epaoswer/hazwaste/data/#rcris>

Envirofacts provides more detailed information as well as online querying of RCRIS.

http://www.epa.gov/enviro/html/rcris/rcris_overview.html



3.9. Is there documentation on RCRIS Compliance Subsystem?

Statutory Authority

- US Code Title 42, The Public Health and Welfare, Chapter 82 Solid Waste Disposal
- 40 CFR Parts 260-263

Internal Consistency

- *RCRIS User Guide*
- RCRIS Data Element Dictionary
- RCRIS Structure Charts
- RCRIS Translator Guide
- RCRIS System Technical Guide
- RCRIS Reports Library
- National Oversight User Guide
- Quick Reference Guide to RCRIS Codes
- RCRIS Merged Database Administrator Guide